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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,375	09/30/2003	Albert A. Maltan	AB-376U	6859
23845	7590	03/22/2006	EXAMINER	
ADVANCED BIONICS CORPORATION 25129 RYE CANYON ROAD VALENCIA, CA 91355			MALAMUD, DEBORAH LESLIE	
			ART UNIT	PAPER NUMBER
			3766	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,375

Applicant(s)

MALTAN ET AL.

Examiner

Deborah Malamud

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/19/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Schulman et al (U.S. 5,603,726). Regarding claims 1-2 and 9, Schulman discloses (column 3, lines 9-16) "a cochlea stimulating system including an externally wearable signal receiver and processor (WP) and an implanted cochlea stimulator (ICS). The receiver, which may comprise a headpiece adjacent the ear of a patient, receives audio signals and transmits the audio signals to the WP. The WP receives and processes the audio signal and includes means for generating data indicative of the audio signals for transmission to the ICS." The examiner considers this to be a cochlear implant system including an implantable cochlear stimulator adapted to receive stimulation signals and power (the ICS) and a sound processor (the WP) that comprises a headpiece comprising a microphone. Schulman further discloses (column 4, lines 28-32 and 43-47) "The external system (10) comprises a headpiece (14) and an externally wearable processor (WP, 16). The headpiece may be worn behind the ear of a hearing impaired person and comprises a conventional microphone (18) and an antenna (20) for transmitting and receiving electromagnetic energy preferably in the form of radio

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frequency signals.” The WP, “powered by a battery (38), is adapted to receive audio signals received by the microphone and to transmit such signals to a conventional audio front end (22) which features automatic gain control (AGC).” The examiner considers this to teach a microphone adapted to receive sound signals and convert them to electrical signals, a sound processing circuit and a power source housed within the sound processor and adapted to provide operating power for the sound processing circuit and implantable cochlear stimulator. See Figure 1.

Further regarding claim 9, Schulman discloses (column 32, lines 30-50) a physician control embodied in “in a portable tester utilizing telemetry coupling to the implanted ICS, thereby providing communication between the tester and ICS for the monitoring, control and measurement of the ICS parameters.” See Figure 6. The examiner considers this to be a remote control unit adapted to electromagnetically communicate through the coil (antenna 20) to allow operating parameters of the sound processing circuits (WP) to be selectively adjusted.

3. Claims 1-4, 6-7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Crosby et al (U.S. 4,532,930). Regarding claims 1-2 and 9, Crosby discloses (column 9, lines 10-30) an “electrode array (20) is flexible and fits the shape of the cochlea as it is inserted along the basilar membrane separating the scala tympani from the remainder of the cochlea. The electrode array is connected via a silastic-covered cable (21) to the RSU (receiver-stimulator unit, 22).” The receiving coil “for information and power is a single turn of multistrand platinum wire (23) which is transformer coupled to the implanted electronics in the RSU. An externally worn coil (24) is simply held

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against the head over the site of RSU implant by (for example) adhesive tape or a fixture, and is connected to the Speech Processor (29) by a coaxial cable (16). A conventional hearing aid microphone (27) is worn on the same ear as the transmitting coil, and a microphone lead (28) is contained in the same cable as the coil coaxial lead. Alternative microphone configurations are possible, including a microphone (33) mounted in the WSP (wearable speech processor) case, or worn on a tie clasp or attached to the clothing, or attached to the fixture holding the transmitting coil." See Figures 2 and 3. The examiner considers this to teach a cochlear implant system including an implantable cochlear stimulator adapted to receive stimulation signals and power and a sound processor that comprises a headpiece comprising a microphone. The microphone is adapted to receive sound signals and convert them to electrical signals, a sound processing circuit and a power source housed within the sound processor and adapted to provide operating power for the sound processing circuit and implantable cochlear stimulator.

Regarding claims 3-4, Crosby discloses (column 27, lines 13-18) "the WSP is powered from +5V and -5V supplies generated by a DC-DC Convertor 90 operating from batteries 91. Battery voltage may be in the range 3 to 7 volts, allowing a wide choice in number and style of batteries, including readily available primary cells, or rechargeable cells."

Regarding claims 6-7, Crosby discloses (column 8, lines 47-49) "the RSU receives information and power from an external source through a tuned receiving coil (5) attached to the RSU and just beneath the skin." The examiner considers this to be a

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coil integrally included within the sound processor and coupled to the sound processing circuit and replenishable power source. The coil and the sound processing circuit receive external control signals from an external source that controls the operation of the sound processing circuits.

Further regarding claim 9, Crosby discloses (column 43, lines 50-65) a diagnostic and programming unit (DPU) and interface unit (IU) usable together such that the DPU has a communications interface which enables communication between it and the IU. The examiner considers this communication link to interact with a remote control unit adapted to electromagnetically communicate through the coil to allow operating parameters of the sound processing circuits to be selectively adjusted. See Figure 22.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 8 and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crosby et al (U.S. 4,532,930) in view of Single (U.S. 2002/0076071). Regarding claims 10 and 17, Crosby teaches the claimed invention except for a base station for charging the rechargeable battery. Single however discloses (paragraph 0076) "a further external device that can be used with implant (40) is a battery charger. The charger provides a means of inductively recharging the two batteries through the

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RF link provided in part by coil (46).” See Figure 2. The examiner considers the charger to be the base station. Both Crosby and Single disclose cochlear implants that utilize rechargeable batteries. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Crosby’s cochlear implant with Single’s charger using an inductive coil in order to effectively replenish the current in the implant.

Regarding claims 5, 14 and 20, Single discloses (paragraph 0042) “the first and at least one further batteries can comprise Lithium-Ion cells.”

Regarding claim 8, Single discloses (paragraph 0030) “the cochlear implant preferably includes a sensing means that senses when the externally mounted device, incorporating an external power supply, is brought into use.”

Regarding claims 11-12 and 18-19, Crosby discloses (column 9, lines 25-32) “a conventional hearing aid microphone (27) is worn on the same ear as the transmitting coil, and a microphone lead (28) is contained in the same cable as the coil coaxial lead. Alternative microphone configurations are possible, including a microphone (33) mounted in the WSP (wearable speech processor) case, or worn on a tie clasp or attached to the clothing, or attached to the fixture holding the transmitting coil.” See Figures 2 and 3.

Regarding claim 13, Crosby discloses (column 27, lines 13-18) “the WSP is powered from +5V and -5V supplies generated by a DC-DC Convertor 90 operating from batteries 91. Battery voltage may be in the range 3 to 7 volts, allowing a wide

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choice in number and style of batteries, including readily available primary cells, or rechargeable cells."

Regarding claim 15, the examiner considers the feedback loop of Figure 3 to teach a control circuit coil and control circuits adapted to control and monitor the recharging process based on feedback signals received through the control circuit coil from the sound processor through the coil of the head piece.

Regarding claim 16, Crosby in view of Single discloses the claimed invention but does not disclose expressly the visual display when the control circuits are connected. It would have been an obvious matter of design choice to a person of ordinary skill in the art to modify the control circuit as taught by Single, with the visual display, because the applicant has not disclosed the visual display provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected the applicant's invention to perform equally well with the audible indication (such as a beep) as taught by Single, because this is a valid indication that the battery is recharged or recharging. Therefore, it would have been an obvious matter of design choice to modify indication to obtain the invention as specified in the claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Malamud whose telephone number is (571) 272-2106. The examiner can normally be reached on Monday-Friday, 8.00am-5.30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571)272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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